

Appln. No. 09/756,451
Response to Final Rejection dated September 30, 2003
Reply to Final Rejection of July 30, 2003

REMARKS AND CONCLUSION

Examination of Applicants' Claims 1-3, 5-11 is respectfully requested. Allowance thereof at an early date is solicited.

Regarding the Amendments

The amendments to the Claims are based on disclosure in the application and add no new matter. In Claim 1 the claimed process is clarified to specify the pultrusion of continuous fiber composites with continuous pulling force required throughout the series of steps. This is based on the specification at page 1, lines 28-30. Claim 1 is clarified to be applicable to any thermoplastic as supported by the specification at page 7, lines 7 and 8.

The terminology in Claim 1 and several other claims is clarified in an editorial fashion to clarify that the initial pultrusion provides the "composite profile" followed by its subsequent thermoforming to provide the final "shaped composite articles".

In Claim 3, the name of the rotary/caterpillar-type die is corrected based on the specification at page 4, line 11. Claim 8 is clarified with regard to pulling forces supplied by the mandrel as shown in the specification at page 5, lines 23 and 24.

Regarding Patentability

Claim 1 had been rejected under 35 USC §103(a) on the basis of the pultrusion process taught in USP 3,993,726 to Moyer ("Moyer") in view of the continuous shaping process as taught in USP 5,266,021 to Jacobson ("Jacobson"). In rejecting the Claims the Examiner acknowledges that Moyer's pultrusion process produces only a continuous uniform rod or tube or other shape but maintains that it would be obvious to somehow add the teachings of Jacobson to provide continuous shaping in the Moyer pultrusion process.

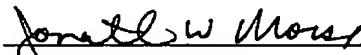
As described in more detail in the application, the present invention provides a pultrusion process with in-line forming. As described in the specification and known to those practicing in this area, pultrusion, as the name implies, involves drawing or pulling long, continuous reinforcing fibers through the various unit operations. The Jacobson process, however, is completely different and is not taught or suggested to be applicable to nor combinable with a pultrusion process. See Jacobson at col. 2, lines 49 through 52 where it is stated that the Jacobson process contemplates providing a continuous length or flow of a malleable or fluent material to its forming apparatus, which

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shapes the material and then stabilizes it to produce a desired shape. On the other hand, the process of Moyer, as described at column 4, lines 3-13 produces a rod or profile that will resist further deformation forces. It is immediately apparent to the skilled practitioner that the continuous forming process of Jacobson operates on heat softened material that could not be tensioned or pulled in a pultrusion process without immediately flattening whatever shaping had been done. There is no mention in Jacobson that it would apply in a continuous fiber pultrusion process or to any product supplied from one.

In the section cited by the Examiner, for example, at col. 12, line 35 and lines 47 through 53, and several other sections emphasize the fact that the shaped form has to be "supported" as it is transported to and from shaping to prevent sagging. It is clear that at such a point the continuous drawing force of a pultrusion process would tighten the material and destroy any shaping that had taken place. It is readily apparent that the teaching of Jacobson, although generally directed to an approach for molding and shaping of plastic articles, is read by one of ordinary skill in this area to be completely incompatible and not combinable with a pultrusion process as taught in Moyer and, thus, not suggesting in any fashion the further in-line shaping according to Applicants' claimed pultrusion process. To say that some combination of the processes of Moyer and Jacobson would make Applicants' claimed process obvious is clearly based only on hindsight with the benefit of Applicants' disclosure of in-line pultrusion thermoforming and not on any disclosure in either reference that they could be combined in some fashion. It is, therefore, clear that Applicants' claimed invention is not suggested or in any made obvious by the cited prior art. It is therefore courteously requested that a Notice of Allowance be promptly issued for these claims.

Respectfully submitted,


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